

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Nie, et al.

Serial No.: TBA

Filed: Herewith

Confirmation No.: TBA

Group Art Unit: TBA

Examiner: TBA

Docket No.: 050508-1100

For: POROUS MATERIALS EMBEDDED WITH NANOSPECIES, METHODS OF FABRICATION THEREOF, AND METHODS OF USE THEREOF

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

This information disclosure statement is filed in accordance with 37 C.F.R. §§ 1.56, 1.97, and 1.98, and specifically:

- ☒ under 37 CFR 1.97(b), or  
(within Three months of filing national application; or date of entry of international application; or before mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:  
☐ Statement Under 37 C.F.R. 1.97(e), or  
☐ a \$180.00 fee under 37 CFR 1.17(p), or  
(After the 37 CFR 1.97(b) time period, but before the final office action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97(d) together with a:  
☐ Statement under 37 CFR 1.97(e), and  
☐ a \$180.00 petition fee set forth in 37 CFR 1.17(p).  
(Filed after final office action or notice of allowance, whichever occurs first, but before payment of the issue fee)

Enclosed is a check in the amount of \$-0-. Please charge \$ to deposit account . At any time during the pendency of this application, please charge any fees required to Deposit Account 200-0778 pursuant to 37 CFR 1.25. The Commissioner is hereby requested to credit any overpayment to Deposit Account No. 20-0778.

- ☒ Applicant(s) submit herewith *Form PTO 1449A - Information Disclosure Statement by Applicant* together with copies of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may or may not be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56. As required by 37 C.F.R. §1.98(a), a legible copy of each document is provided.
- ☐ A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individual(s) designated in 37 CFR 1.56(c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on the form PTO 1449 and is enclosed herewith.

The following rights are reserved by the Applicant(s): the right to establish the patentability of the claimed invention over any of the listed documents should they be applied as reference, and/or the right to prove that some of these documents may not be prior art, and/or the right to prove that some of these documents may not be enabling for the teachings they purport to offer.

This statement should not be construed as a representation that an exhaustive search has been made, or that information more material to the examination of the present application does not exist. Any statements or identifications regarding the relevance of any portion(s) of cited references should not be construed as a representation that the most relevant portion(s) have been identified, and the absence of such statements or identifications should not be construed as representations that there are no relevant portion(s). The Examiner is specifically requested not to rely solely on the materials submitted herewith. The Examiner is requested to conduct an independent and thorough review of the documents, and to form independent opinions as to their significance.

It is requested that the information disclosed herein be made of record in this application and that the Examiner initial and return a copy of the enclosed PTO-1449 to indicate the documents have been considered.

Respectfully Submitted,

**THOMAS, KAYDEN, HORSTEMEYER  
& RISLEY, L.L.P.**

By:



**Christopher B. Linder, Ph.D.  
Reg. No. 47,751**

100 Galleria Parkway, Suite 1750  
Atlanta, Georgia 30339-5948  
770-933-9500

Form PTO-1449					Attorney Docket No. <b>050508-1100</b>		Serial No. <b>TBA</b>	
<b>INFORMATION DISCLOSURE CITATION</b>					Applicant <b>Nie, et al.</b>			
<i>(Use several sheets if necessary)</i>					Filing Date <b>September 18, 2003</b>		Group <b>TBA</b>	

  

U.S. PATENT DOCUMENTS							
Examiner Initials	Item	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	1	20020090650	July 11, 2002	Empedocles, et al.	435	7.1	
	2	20020182609	Dec. 5, 2002	Arcot	435	6	
	3	6,468,808	Oct. 22, 2002	Nie et al.	436	524	
	4	6,514,295	Feb. 4, 2003	Chandler, et al.	8	607	
	5	6,524,793	Feb. 25, 2003	Chandler, et al.	435	6	
	6	6,541,203	April 1, 2003	Mitchison	435	6	

  

FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation
							Yes    No
	7	WO 00/55631 A1	Sept. 21, 2000	WIPO	33	58	X
	8	WO 00/71995 A2	Nov. 30, 2000	WIPO	21	77	X
	9	WO 03/003015 A2	Jan. 9, 2003	WIPO	33	544	X

  

OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, etc.)</i>	
10	C.B. Murray, D.J. Norris, and M.G. Bawendi, "Synthesis and Characterization of Nearly Monodisperse CdE (E=S, Se, Te) Semiconductor Nanocrystallites," March 22, 1993.
11	Z. Adam Pen and Xiaogang Peng, "Formation of High-Quality CdTe, CdSe, and CdS Nanocrystals Using CdO as Precursor," October 10, 2000.
12	Lianhua Qu, Z. Adam Peng, and Xiaogang Peng, "Alternative Routes toward High Quality CdSe Nanocrystals," May 15, 2001.
13	Xiaogang Peng, Michael C. Schlamp, Andreas V. Kadavanich, and A.P. Alivisatos, "Epitaxial Growth of Highly Luminescent CdSe/CdS Core/Shell Nanocrystals with Photostability and Electronic Accessibility," March 10, 1997.
14	Mingyong Han, Xiaohu Gao, Jack Z. Su, and Shuming Nie, "Quantum-dot-tagged microbeads for multiplexed optical coding of biomolecules," July 2001.
15	Wolfgang J. Parak, Rosanne Boudreau, Mark LeGros, Daniele Gerion, Daniela Zanchet, Christine M. Micheel, Shara C. Williams, A. Paul Alivisatos, and Carolyn Larabell, "Cell Motility and Metastatic Potential Studies Based on Quantum Dot Imaging of Phagokinetic Tracks," June 18, 2002.

  

* EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.	
EXAMINER'S SIGNATURE:	DATE CONSIDERED:

Form PTO-1449		Attorney Docket No. <b>050508-1100</b>	Serial No. <b>TBA</b>
<b>INFORMATION DISCLOSURE CITATION</b>  <i>(Use several sheets if necessary)</i>		Applicant <b>Nie, et al.</b>	
		Filing Date <b>September 18, 2003</b>	Group <b>TBA</b>
OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, etc.)</i>			
	16	Mahesh K. Bhalgat, Rosaria P. Haugland, Jeffrey S. Pollack, Sharon Swan, Richard P. Haugland, "Green-and red-fluorescent nanospheres for the detection of cell surface receptors by flow cytometry," June 21, 1998.	
	17	J. R. Kettman, T. Davies, D. Chadler, K.G. Oliver, and R.J. Fulton, "Classification and Properties of 64 Multiplexed Microsphere Sets," June 10, 1998.	
	18	R. Jerrold Fulton, Ralph L. McDade, Perry L. Smith, Laura J. Kienker, and John R. Kettman Jr., "Advanced multiplexed analysis with the FlowMetrix™ system," Clinical Chemistry 43:9, 1749-1756 (1997).	
	19	Keith J. Albert and David R. Walt, "Optical Multibead Arrays for Simple and Complex Odor Discrimination," June 1, 2001.	
	20	Keith J. Albert and David R. Walt, "High-Speed Fluorescence Detection of Explosives-like Vapors," Anal. Chem. 2000, 72, 1947-1955.	
	21	Karri L. Michael, Laura C. Taylor, Sandra L. Schultz, and David R. Walt, "Randomly Ordered Addressable High-Density Optical Sensor Arrays," Anal. Chem. 1998, 70, 1242-1248.	
	22	Jane A. Ferguson, Frank J. Steemers, and David R. Walt, "High-Density Fiber-Optic DNA Random Microsphere Array," Anal. Chem. 2000, 72, 5618-5624.	
	23	Nikolai Gaponik, Igor L. Radtchenko, Gleb B. Sukhorukov, Horstt Weller, and Andrey L. Rogach, "Toward Encoding Combinatorial Libraries: Charge-Driven Microencapsulation of Semiconductor Nanocrystals Luminescing in the Visible and Near IR," Adv. Mater. 2002, 14 No. 12, June 18.	
	24	Kevin Braeckmans, Stefaan C. DeSmedt, Marc Leblans, Rudi Pauwels and Joseph Demeester, "Encoding Microcarriers: Present and Future Technologies," Nature Reviews/Drug Discovery, Volume 1, June 2002.	
	25	Bronwyn J. Battersby, Gwendolyn A. Lawrie, Angus P.R. Johnston and Matt Trau, "Optical barcoding of colloidal suspensions: applications in genomics, proteomics and drug discovery," Chem Commun., 2002, 1435-1441.	
	26	Richard M. Levenson and Clifford C. Hoyt, "Spectral imaging and microscopy," American Laboratory, 2000.	
	27	J.R. Kettman, T. Davies, D. Chandler, K.G. Oliver, and R.J. Fulton, "Classification and Properties of 64 Multiplexed Microsphere Sets," Cytometry 33:234-243 (1998).	
	28	J.W. Kim, J.H. Ryu, K.D. Suh, "Monodisperse micron-sized macroporous poly (styrene-co-divinylbenzene) particles by seeded polymerization," Colloid Polym Sci 279:146-152 (2001).	
	29	Q. Ching Wang, Frantisek Svec, and Jean M.J. Frechet, "Fine Control of the Porous Structure and Chromatographic Properties of Monodisperse Macroporous Poly (styrene-co-divinylbenzene) Beads Prepared Using Polymer Porogens," Journal of Polymer Science Part A:Polymer Chemistry, Vol. 32, 2577-2588 (1994).	
	30	Gregory Bearman, Jet Propulsion Laboratory, California Institute of Technology, Richard Levenson, Cambridge Research and Instrumentation, Woburn, MA, "Biological Imaging Spectroscopy," Pages 1-22.	
	31	Paul Pantano, Claudia C. Meek, Jing Wang, Decio H. Coutinho and Kenneth J. Balkus, Jr., "Optical encoding with shaped DAM-1 molecular sieve particles," The Royal Society of Chemistry 2003, Lab Chip, 2003, 3, 132-135.	
* EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.			
EXAMINER'S SIGNATURE:		DATE CONSIDERED:	

